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EXAMINER

WANG, TED M

ART UNIT PAPER NUMBER

2634

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/767,850

Applicant(s)

PEETERS ET AL.

Examiner

Ted M Wang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8 and 10 is/are rejected.
- 7) ☒ Claim(s) 6 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on April 21, 2004, have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicants' arguments but firmly believes that the cited reference to reasonably and properly meet the claimed limitations.

(1) Applicants' argument – “the admitted prior art fails to teach that “said means (BiGi PROD) for producing carrier constellation information is adapted to produce for at least one respective carrier subset (SUBSET1, SUBSET2, ..., SUBSET8) a set of parameter values (B1, G1; B2, G2; ...; B8, G8) from which constellations of all carriers ($f_0 \dots f_{511}$, $f_{512} \dots f_{1023}$, ..., $f_{3584} \dots f_{4095}$) in said at least one respective carrier subset (SUBSET1; SUBSET2; ...; SUBSET8) can be retrieved through interpolation.” and “Accordingly, it is clear that the admitted prior art does not group the carrier into subsets, nor produce parameter values for each carrier subset, nor derive the constellation information from interpolation of the parameter values.”

Examiner's response -- The recited claim 1 stated that *at least one* respective carrier subset (SUBSET1; SUBSET2; ...; SUBSET8) can be retrieved through interpolation. It is clear to interpret it that any single carrier subset is the carrier itself since ‘at least one’ carrier subset including “single” carrier subset.

With above interpretation, the admitted prior art does group the carrier into single (at least one) carrier subset, and produce parameter values (Bi, Gi) for the single

carrier subset, and derive the constellation information from interpolation of the parameter value as described in the admitted prior art of the instant applicant page 1 lines 7-24.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1-4, 7, and 8 rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art of the instant application.

- In regard claim 1, the admitted prior art of the instant application teaches that a constellation information transmitting arrangement for use in a multi-carrier transmitter or multi-carrier receiver of a multi-carrier system (page 1 lines 3-15), said arrangement comprising means for producing carrier constellation information indicative for constellations where respective carriers will be modulated with by said multi-carrier transmitter (page 1 lines 7-20), and means for transmitting said carrier constellation information (page 1 lines 11-21), CHARACTERISED IN THAT said means for producing carrier constellation information is adapted to produce for at least one respective carrier subset a set of parameter from which constellations of all carriers in said at least one

respective carrier subset can be retrieved through interpolation (page 1 lines 7-24).

- In regard claim 2, the limitation that a set of parameter values consists of a first number of bits and a first gain value can further be taught in page 1 lines 12-20.
- In regard claim 3, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 4, the limitation that constellations of all carriers in said at least one respective carrier subset can be retrieved through linear interpolation can further be taught in page 1 lines 21-23.
- In regard claim 7, the limitation that Constellation information receiving arrangement for use in a multi-carrier transmitter or multi-carrier receiver of a multi-carrier 15 system, said arrangement comprising means for receiving carrier constellation information indicative for constellations where respective carriers will be modulated with by said multi-carrier transmitter, and means for determining said constellations from said carrier constellation information, CHARACTERISED IN THAT said means for determining said constellations comprise interpolating means adapted to retrieve constellations of all carriers in at least one respective carrier subset from a respective set of parameter values that forms part of said carrier constellation information can further be taught in page 1 line 7 – page 2 line 4.
- In regard claim 8, the limitation that a set of parameter values consists of a first number of bits and a first gain value and in that said interpolating means is

adapted to determine for each carrier in said at least one respective carrier a number of bits equal to said first number and a gain value equal to said first gain value can further be taught in page 1 lines 7-31.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art of the instant application in view of section 9 of the ADSL Standard Specification Release 2 entitled 'Network and Customer Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface', published by the American National Standards Institute (ANSI) under the reference ANSI T1.413-1998.

- In regard claim 5, the admitted prior art of the instant application teaches all limitation described in claim 1 except specifically teaching that the arrangement further contains means to produce a description of said at least one respective

carrier subset, and means to transmit said description of said at least one respective carrier subset.

The section 9 of the ADSL Standard Specification Release 2 entitled 'Network and Customer Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface', published by the American National Standards Institute (ANSI) under the reference ANSI T1.413-1998 teaches that the arrangement further contains means to produce a description of said at least one respective carrier subset, and means to transmit said description of said at least one respective carrier subset (section 9.8.13, pages 120-121) in order to facilitate the transceiver initialization.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the admitted prior art of the instant application's arrangement in view of the section 9 of the ADSL Standard Specification Release 2 entitled 'Network and Customer Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface', published by the American National Standards Institute (ANSI) under the reference ANSI T1.413-1998 teaching in order to facilitate the transceiver initialization.

- In regard claim 10, the admitted prior art of the instant application teaches all limitation described in claim 1 except specifically teaching that the arrangement further contains means to receive a description of said at least one respective carrier subset, and means to interpret said description of said at least one respective carrier subset.

The section 9 of the ADSL Standard Specification Release 2 entitled 'Network and Customer Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface', published by the American National Standards Institute (ANSI) under the reference ANSI T1.413-1998 teaches that the arrangement further contains means to receive a description of said at least one respective carrier subset, and means to interpret said description of said at least one respective carrier subset (section 9.9.14, pages 127) in order to facilitate the transceiver initialization.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the admitted prior art of the instant application's arrangement in view of the section 9 of the ADSL Standard Specification Release 2 entitled 'Network and Customer Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface', published by the American National Standards Institute (ANSI) under the reference ANSI T1.413-1998 teaching in order to facilitate the transceiver initialization.

Allowable Subject Matter

6. Claims 6 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (703) 305-0373. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M Wang

Examiner

Art Unit 2634

Ted M. Wang


STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
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